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RESEARCH ARTICLE

New data on the fauna of casebearer moths (Lepidoptera, Coleophoridae) of Omsk Province, Russia

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Abstract

The information on the casebearer moth family Coleophoridae from Omsk Province was summarized based on the determination of materials collected by the second author in 2014-2020. There is a list of 31 species, among them, 21 new regional records from the territory of Omsk Province are given. Two species (*Casignetella occatella* (Staudinger, 1880) and *Ecebalia proterella* (Wikström et Tabell, 2016) are new to the Asian part of Russia. The total number of Coleophoridae from Omsk Province is increased to 55.

Keywords

Lepidoptera, Coleophoridae, fauna, Omsk Province, West Siberia, Russia, biodiversity

Introduction

With 499 species in Russia, the casebearer moths are among the most diverse families of Gelechioidea and Lepidoptera in general (Sinev, 2019). 194 species are recorded from West Siberian Plain (Anikin, 2019) based on published collection materials in faunistic and taxonomic papers (Tibatina, 1973, 1976; Falkovitsh et al.,

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1977; Anikin, 1999, 2001a, 2001b, 2001c, 2006, 2008, 2014; Baldizzone et al., 2007; Budashkin et al, 2015 and others). This is the next contribution in series of papers devoted to studying the Coleophoridae from Omsk Province of Western Siberia. Earlier, 34 species were registered for this region by Anikin and Knyazev (2012, 2016). As a result of our studying the material collected by S.A. Knyazev in 2014-2020, 21 additional species were found in Omsk Province, including *Casignetella occatella* (Staudinger, 1880) and *Ecebalia proterella* (Wikström et Tabell, 2016), that are new for the Asian part of Russia. The list of new and additional records of Coleophoridae is given below. A photograph of the male genitalia of the lectotype of *C. occatella* is provided.

Methods

The paper is based on material collected by the second author in various parts of the Omsk Province in 2014-2020, as well as on a limited material kindly provided by V.V. Rogalev, a colleague-entomologist from Omsk. The studied material is partly stored in the laboratory of insect taxonomy of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia), in the Zoological Museum of the Saratov State University, and in the private collection of the second author.

Geographical coordinates of the collecting sites (Fig. 1):

1. Tarsky district, 0.5 km N of Timshinyakovo village, 56°57'8.97"N, 74°25'49.51"E;
2. Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, 56°13'30.08"N, 70°53'44.58"E;
3. Moskalensky district, 3.5 km NNW of Maiskyi village, 55°8'37.13"N, 71°43'48.28"E;
4. Maryanovsky district, 2 km N of Maryanovka village, 54°59'25.29"N, 72°36'41.68"E;
5. Omsky district, 2 km N of Davydovka village, 55°11'14"N, 73°29'47"E;
6. Omsk City, Lukashevicha street, 54°59'33"N, 73°16'20"E;
7. Moskalensky district, 6 km SW of Gvozdevka village, Amrinskaya Balka, 54°32'23.8"N, 71°47'43.02"E;
8. Cherlacksky district, 2 km NW of Verkhneilyinka village, 54°33'30.61"N, 74°14'26.02"E;
9. Cherlacksky district, 9 km SE Nikolaevka village, 54°12'16.95"N, 75° 7'55.70"E;
10. Cherlacksky district, 2 km N of Malyi Atmas village, river Irtysh, 54°0'48.74"N, 74°56'39.91"E;
11. Russko-Polyansky district, 2 km SE of Buzan village, 53°54'40"N, 73°57'31"E;
12. Novovarshavsky district, 8 km SE of Novovarshavka village, 3 km NE of Bogdanovka village, river Irtysh, 54°06'32.4"N, 74°48'55.2"E.

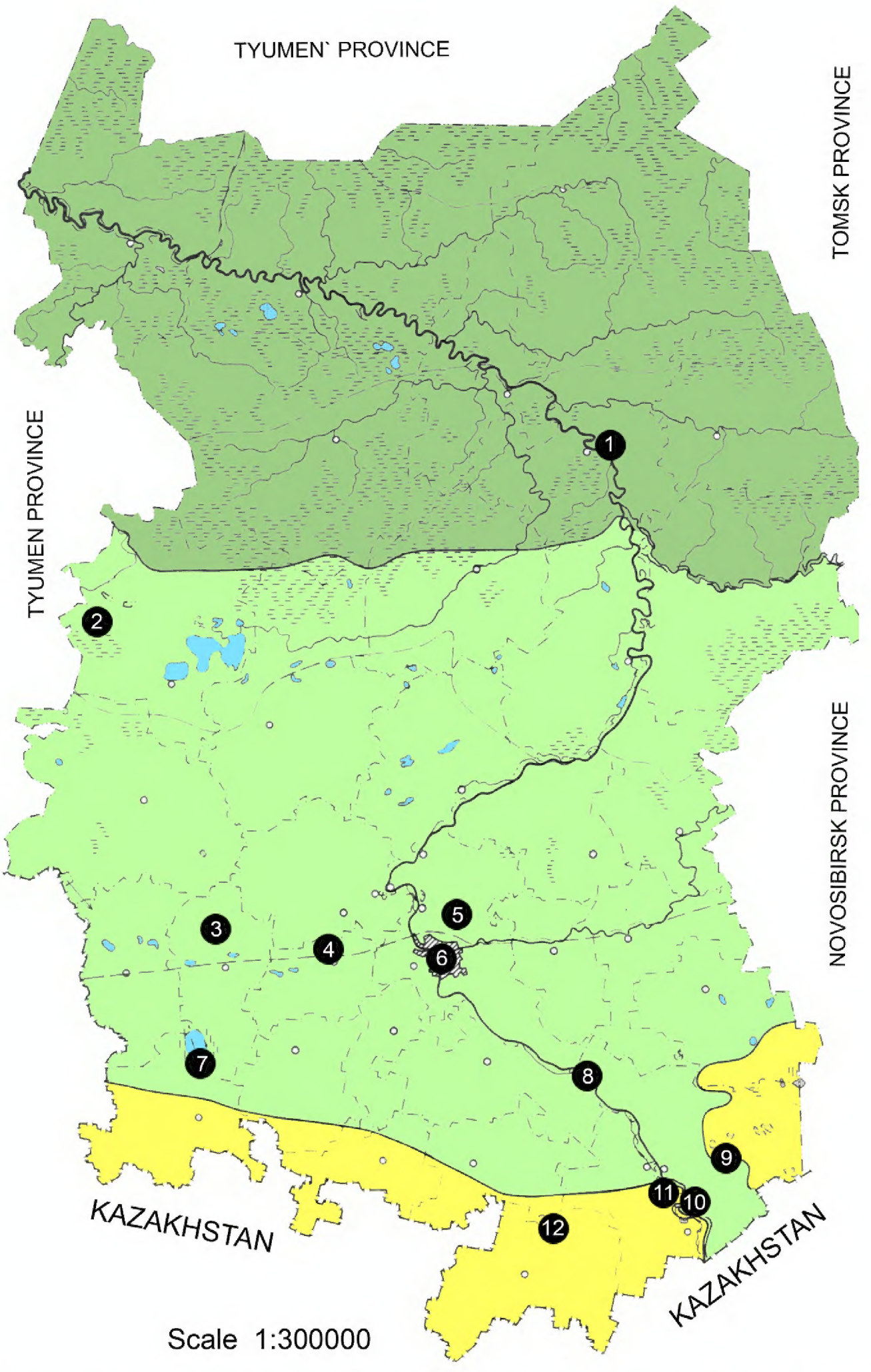

Figure 1. The map of collecting localities of Coleophoridae in Omsk Province. The numbers inside the circles correspond to the numbers of collection localities in the text. Dark green fill – forest zone; light green fill – forest-steppe zone; yellow fill – steppe zone.

Species firstly reported for the Omsk Oblast are marked by an asterisk; species new to the Asian part of Russia – by a double asterisk. The abbreviations of the names of the collectors are given by their initials: SK – S.A. Knyazev, VR - V.V. Rogalev.

Results

Below is a list of 31 species of Coleophoridae, made in accordance with the system of the Catalog of Lepidoptera of Russia (Anikin, 2019). The list includes 21 species recorded from the Omsk Province for the first time. We also provide additional locality records for eleven species that have been previously indicated from the studied territory.

List of species

******Haploptilia prunifoliae* **(Doets, 1944)**

Material examined. 1♂, 6-7.06.2016, Omsk City, Lukashevicha street, at light (VR); 1♀, 27.06.2018, Novovarshavsky district, 3 km E of Novovarshavka, Irtysh river valley (SK).

******Helopharea ledi* **(Stainton, 1860)**

Material examined. 1♂, 16.06.2018, Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, sphagnum swamp (Pinus, Ledum), at light (SK).

******Orghidania gryphipennella* **(Hübner, 1796)**

Material examined. 1♀, 15.06.2017, Omsk City, Lukashevicha street, at light (VR).

******Chnoocera botaurella* **(Herrich-Schäffer, 1861)**

Material examined. 1♀, 26-27.07.2017, Maryanovsky district, 2 km N of Maryanovka village, near lake Zheltoye, at light (SK).

******Bourgogneja pennella* **(Denis & Schiffermüller, 1775)**

Material examined. 1♂, 10-11.06.2016, Cherlacksky district, 2 km N of Malyi Atmas village, river Irtysh (SK).

******Coleophora albidella* **(Denis & Schiffermuller, 1775)**

Material examined. 2♂, 7-8.06.2016, Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, sphagnum swamp (*Pinus* (*Pinaceae*, *Ledum* (*Ericaceae*) (SK).

******Coleophora betulella* **Heinemann & Wocke, 1877**

Material examined. 1♂, 4-5.06.2016, Omsky district, 2 km N of Davydovka village, at light (SK); 1♂, 17.06.2017, Omsk City, Lukashevicha street, at light (VR).

******Coleophora currucipennella* **Zeller, 1839**

Material examined. 1♂, 7-8.06.2016, Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, sphagnum swamp (*Pinus* (*Pinaceae*, *Ledum* (*Ericaceae*) (SK).

******Coleophora zelleriella* **Heinemann, 1854**

Material examined. 1♂, 10-11.06.2016, Cherlacksky district, 2 km N of Malyi Atmas village, Irtysh river (SK).

Damophila alcyonipennella **(Kollar, 1832)**

Material examined. 1♂, 1♀, 24-25.05.2020, Tarsky district, 0.5 km N of Timshinyakovo village, at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2012, 2016).

Damophila deauratella **(Lienig et Zeller, 1846)**

Material examined. 1♂, 17.06.2017, Omsk City, Lukashevicha street, at light (VR); 1♂, 14.06.2017, same locality, at light (VR); 1♂, 24-25.06.2020, Moskalensky district, 3.5 km NNW of Maiskyi village, at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2012, 2016).

Damophila trifolii **Curtis, 1832**

Material examined. 1♂, 18-19.07.2019, Cherlacksky district, 2 km N of Malyi Atmas village, Irtysh river (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2012, 2016).

***Eupista ornatipennella* (Hübner, 1796)**

Material examined. 1♀, 6-7.06.2015, Moskalensky district, 3.5 km NNW of Maiskyi village, at light (SK); Moskalensky district, 6 km SW of Gvozdevka village, Amrinskaya Balka, at light (SK). This species was previously reported from Omsk Province (Anikin 2019).

******Eupista samarensis* **Anikin, 2001**

Material examined. 1♀, 24-25.07.2014, Cherlacksky district, 2 km N of Malyi Atmas village, Irtysh river (SK).

***Apista gallipennella* (Hűbner, 1796)**

Material examined. 1♂, 7-8.06.2016, Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, sphagnum swamp (*Pinus*, *Ledum*), at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2016). It is noteworthy that the species has noticeably "moved" to the east and is noted already in the Khabarovsk Territory (Anikin 2021).

******Multicoloria cartilaginella* **(Christoph, 1872)**

Material examined. 1♀, 10-11.07.2019, Cherlacksky district, 2 km N of Malyi Atmas village, Irtysh river (SK); 1♂, 17-18.06.2020, same locality, at light (SK).

******Multicoloria cracella* **(Vallot, 1835)**

Material examined. 1♀, 24-25.06.2014, Cherlacksky district, 2 km N of Malyi Atmas village, Irtysh river (SK).

***Multicoloria ditella* (Zeller, 1849)**

Material examined. 1♂, 11-12.06.2018, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2012, 2016).

***Multicoloria vibicigerella* (Zeller, 1839) (=*didyma* Toll, 1957)**

Material examined. 2♂, 11-12.06.2018, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK); 1♂, 21-22.06.2018, Cherlacksky district, 9 km SE Nikolaevka village, at light (SK); 1♂, 10-11.07.2018, Cherlacksky district, 2 km N of Malyi Atmas village, Irtysh river, at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2016).

***Perygra adjunctella* (Hodgkinson, 1882)**

Material examined. 1♂, 11-12.06.2018, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK). This species was previously reported from Omsk Province (Anikin, Knyazev, 2012, 2016).

***Ecebalia gaviaepennella* (Toll, 1952)**

Material examined. 1♀, 14-15.09.2018, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK); 3♀, 16-17.08.2020, same locality, at light (SK); 1♂, 1.09.2020, Cherlacksky district, 2 km NW of Verkhneilyinka village, at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2016).

****Ecebalia proterella* (Wilkinson et Tabell, 2016)**

Material examined. 1♂, 16-17.08.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK). Before noted only for Arkhangelsk Province (Kozlov et al., 2020).

Ecebalia saxicolella* (Duponchel, 1843)

Material examined. 1♂, 16-17.08.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK).

***Ecebalia vestianella* (Linnaenus, 1758)**

Material examined. 1♂, 16-17.08.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK). This species was previously reported from Omsk Province (Anikin and Knyazev 2012, 2016).

Casignetella albicans* (Zeller, 1849) (=*artemisiella* Scott, 1861)

Material examined. 1♂, 18-19.05.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK).

Casignetella ancistron* (Falkovitsh, 1976)

Material examined. 1♂, 11-12.06.2018, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK).

***_Casignetella directella_ (Zeller, 1849)**

Material examined. 2♂, 16-17.08.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK).

***_Casignetella nutantella_ (Mühlig & Frey, 1857)**

Material examined. 1♂, 7-8.06.2016, Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, sphagnum swamp (*Pinus* (*Pinaceae*), *Ledum* (*Ericaceae*) (SK).

****_Casignetella occatella_ (Staudinger, 1880)**
(Fig. 2)

Material examined. 2♂, 16-17.08.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK). Note: the photo of the female genitals is given in the article (Baldizzone and Patzak 1991). In the domestic lepidopterological literature there is no image of the genital structures of the male of the species, therefore the authors cite an image of the lectotype stored in the Berlin Museum of Natural History.

***_Casignetella paripennella_ (Zeller, 1839)**

Material examined. 1♀, 7-8.06.2016, Krutinsky district, 44 km NW of Krutinka village, 5 km SW of Gulyai Pole village, sphagnum swamp (Pinus, Ledum) (SK).

Figure 2. Lectotype of *Casignetella occatella* (Staudinger, 1880): a – male genital structures "P[late with genital] S[tructure]" № 267; b – type labels LECTOTYPE_HUB_LBL. (photo by V.V. Anikin).

******Carpochena lativitella* **(Erschoff, 1877)**

Material examined. 1♀, 16-17.08.2020, Russko-Polyansky district, 2 km SE of Buzan village, at light (SK).

Thus, for the fauna of the Omsk Province, 31 species of casebearer moths have been identified, of which 21 are firstly reported for the Omsk Province. Two species are new to Asian part of Russia (*Casignetella occatella* (Staudinger, 1880) and *Ecebalia proterella* (Wikström et Tabell, 2016). Of course, the continuation of new biotopes survey in entomological expeditions in this region of Western Siberia will allow to significantly expand the presented list in the future, which already for the West Siberian region has a fauna composition of about 200 species (Anikin 2019). According to the new studies, the number of known species of Coleophoridae in the fauna of the Omsk Province has reached 55. It is noteworthy that the "new" species are gradually closing the territory between Eastern Siberia with the Far East and the European part, thereby removing a large gap in the distribution of these species in the European and Asian parts of the continent.

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